

EFS

Applicants: David S. Lawrence and Biao Xi

Appl. No.: 10/586,892

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Reply filed August 19, 2010

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Amendments to the Claims:

Please cancel Claims 19-26, 28-31 and 35-38 without prejudice or disclaimer, and amend Claims 1 and 27 as set forth below.

1. (Currently amended) A method for enhancing production in a subject of a functional protein from a gene disrupted by the presence of a premature stop codon in the coding region of the gene, comprising administering to the subject an amount of an agent effective to suppress the premature stop codon and an amount of an agent effective to increase transcription of the gene, wherein the agent that is effective to increase transcription of the gene is a fluorinated quinolone or thioguanine, ~~and~~ wherein the agent that suppresses the premature stop codon is administered at a dose lower than the dose that would be required to produce the same amount of functional protein in the absence of the agent that increases transcription, and wherein the disruption of the gene is associated with ataxia telangiectasia.
2. (Original) The method of claim 1, wherein the agent that suppresses the premature stop codon is an aminoglycoside antibiotic.
3. (Original) The method of claim 2, wherein the aminoglycoside antibiotic is selected from the group consisting of gentamicin, geneticin, paromomycin, hygromycin, G-418, kanamycin, amikacin and tobramycin.
4. (Original) The method of claim 3, wherein the aminoglycoside antibiotic is gentamicin.

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5. (Withdrawn) The method of claim 3, wherein the aminoglycoside antibiotic is geneticin.
6. (Original) The method of claim 1, wherein the agent that increases transcription of the gene is an agent that activates a promoter of the gene.
7. (Withdrawn) The method of claim 1, wherein the agent that is effective to increase transcription of the gene is a fluorinated quinolone.
8. (Withdrawn) The method of claim 7, wherein the fluorinated quinolone is ofloxacin.
9. (Previously presented) The method of claim 1, wherein the agent that is effective to increase transcription of the gene is thioguanine.
10. (Original) The method of claim 1, wherein the production of functional protein is enhanced by a factor of at least 7-fold relative to an untreated control.
11. (Original) The method of claim 10, wherein the production of functional protein is enhanced by a factor of at least 10-fold relative to an untreated control.
12. (Original) The method of claim 11, wherein the production of functional protein is enhanced by a factor of at least 20-fold relative to an untreated control.

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13. (Original) The method of claim 12, wherein the production of functional protein is enhanced by a factor of at least 30-fold relative to an untreated control.
14. (Original) The method of claim 1, wherein the production of functional protein is enhanced by a factor of at least 2-fold relative to the production obtained using only the agent that suppresses the premature stop codon.
15. (Original) The method of claim 14, wherein the production of functional protein is enhanced by a factor of at least 3-fold relative to the production obtained using only the agent that suppresses the premature stop codon.
16. (Original) The method of claim 1, wherein the production of functional protein is enhanced to a level that corresponds to at least 10% of the level of functional protein generated from a corresponding native gene in which a premature stop codon is absent.
17. (Canceled)
18. (Previously presented) The method of claim 1, wherein the lower dose of the agent that suppresses the premature stop codon results in decreased toxicity.
- 19-26. (Canceled)
27. (Currently amended) The method of claim 1[[9]], wherein the genetic disorder is treated.

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28-38. (Canceled)